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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/585,886	06/25/2007	Philipp Oberdoerffer	10861-034USI CBRI ID 04-0	4671

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EXAMINER	
SHEN, WU CHENG WINSTON	
ART UNIT	PAPER NUMBER
1632	

NOTIFICATION DATE	DELIVERY MODE
07/20/2009	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

PATDOCTC@fr.com

Office Action Summary	Application No.	Applicant(s)	
	10/585,886	OBERDOERFFER ET AL.	
	Examiner	Art Unit	
	WU-CHENG Winston SHEN	1632	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *1* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-36* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☐ Claim(s) _____ is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☒ Claim(s) *1-36* are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1. It is noted that the following restriction is based on the claim set filed on 07/12/2006, which lists claims 1-36 with claim amendments.

The latest claim set was filed on 11/01/2006, which lists claims 1-26 without claim amendments. The claim set filed on 11/01/2006 appear to be the identical claim set of provisional application 60/538,871 filed 01/22/2004.

This application is a 371 of PCT/US05/03104 filed on 01/21/2005 which claims benefit of provisional 60/538,871 filed on 01/22/2004.

Election/Restrictions

2. Restriction is required under 35 U.S.C. 121 and 372.

This application contains the following inventions or groups of inventions, which are not so linked as to form a single general inventive concept under PCT Rule 13.1.

In accordance with 37 CFR 1.499, applicant is required, in reply to this action, to elect a single invention to which the claims must be restricted.

I. Claims 1-12 and 18-23, drawn to a nucleic acid molecule comprising: an RNA polymerase III promoter sequence; a short RNA encoding sequence comprising a transcription initiation site; a *lox*P-flanked STOP cassette comprising an RNA polymerase III-specific termination sequence, a first *lox*P sequence, and a second *lox*P sequence, wherein (i) each of the two *lox*P sequences comprises a spacer region, (ii) the termination sequence is disposed between the first and second *lox*P

sequences, and (iii) the termination sequence is disposed between the promoter sequence and the transcription initiation site of the short RNA encoding sequence in the nucleic acid molecule, and an eukaryotic cell comprising the said nucleic acid molecule.

II. Claims 13-17, drawn to a transgenic animal whose genome comprises the nucleic acid molecule of claim 1.

III. Claim 24, drawn to a method of making an inducible short RNA expression system, the method comprising linking two or more nucleic acids to produce the nucleic acid of claim 1

IV. Claims 25-27, drawn to a method of making a transgenic animal comprising: introducing the molecule of claim 1 into the genome of an embryonic stem cell; introducing the embryonic stem cell into an embryo; implanting the embryo in an animal capable of carrying the embryo to term; and allowing the embryo to come to term, thereby generating a transgenic animal.

V. Claims 28-29, drawn to a method of making an animal cell containing an inducible short RNA expression, the method comprising: transfecting a cell with the molecule of claim 1

VI. Claim 30, drawn to a method of evaluating gene function in a cell, the method comprising: providing the cell of claim 18; inducing transcription of the short RNA encoding sequence; and

VII. Claim 31, drawn to a method of evaluating gene function in an organism, the method comprising: providing the transgenic animal claim 13; inducing

transcription of the short RNA encoding sequence; and monitoring changes in the organism.

VIII. Claims 32 and 33, drawn to a method of treating a patient, the method comprising: administering the molecule of claim 1 into a patient in need of having expression of one or more genes reduced, wherein the short RNA encoding sequence encodes a transcript designed to reduce expression of the one or more genes the patient is in need of reducing.

IX. Claim 34, drawn to a method of identifying a candidate RNAi effector with reduced activity in T-cells, the method comprising: administering or inducing expression of siRNA in a T-cell and a control cell; evaluating expression of an mRNAs or protein in the T-cell and the control cell; and identifying an mRNA or protein (a) with a reduced expression level or (b) that is differently modified in the T-cell relative to control, wherein the control cell is not a mature lymphocyte and an mRNA or protein with reduced levels or that is differently modified in the T-cell relative to control is a candidate RNAi effector with reduced activity in T-cells.

X. Claim 35, drawn to a method of identifying a candidate inhibitor of RNAi in T-cells, the method comprising: administering or inducing expression of siRNA in a T-cell and a control cell; evaluating expression of an mRNA or protein in the T-cell and the control cell; and identifying an mRNA or protein (a) with an increased expression level or (b) that is differently modified in the T-cell relative to control; wherein the control cell is not a mature lymphocyte and an mRNA or

protein with reduced levels or that is differently modified in the T-cell relative to control is a candidate inhibitor of RNAi in T-cells.

XI. Claim 36, drawn to a method of identifying a missing RNAi effector or inhibitor of RNAi in T-cells, the method comprising: identifying a candidate missing RNAi effector or candidate inhibitor of RNAi by performing the method of claim 34; and (i) in one or more T-cells, (a) introducing the identified candidate RNAi effector or (b) modifying the identified candidate RNAi effector, and subsequently determining if (a) or (b) increases RNAi efficiency in the one or more T-cells, wherein an increases RNAi efficiency is an RNAi effector with reduced activity in T-cells; (ii) introducing or modifying the identified candidate inhibitor of RNAi in a cell, and subsequently determining if it reduces RNAi efficiency in the cell, wherein a candidate that reduces RNAi efficiency in the cell is an inhibitor of RNAi in T-cells; or (iii) inactivating the identified candidate inhibitor in a T-cell, and subsequently determining if inactivation increases RNAi efficiency in the T-cell, wherein an inactivated candidate inhibitor that increases RNAi efficiency in the T-cell is an inhibitor of RNAi in T- cells.

Claim 12 of Group I is subjected to the <u>further restrictions</u> to a specific SEQ ID NO of amino acid sequence selected from the group consisting of SEQ ID Nos: 1 to 7. This is <u>not</u> an election of species.

MPEP 803.04 states:

> Nucleotide sequences encoding different proteins are structurally distinct chemical compounds and are unrelated to one another. These sequences are thus

> deemed to normally constitute independent and distinct inventions within the meaning of 35 U.S.C. 121. Absent evidence to the contrary, each such nucleotide sequence is presumed to represent an independent and distinct invention, subject to a restriction requirement pursuant to 35 U.S.C. 121 and 37 CFR 1.141 et seq. Nevertheless, to further aid the biotechnology industry in protecting its intellectual property without creating an undue burden on the Office, the Commissioner has decided sua sponte to partially waive the requirements of 37 CFR 1.141 et seq. and permit a reasonable number of such nucleotide sequences to be claimed in a single application. See Examination of Patent Applications Containing Nucleotide Sequences, 1192 O.G. 68 (November 19, 1996).

Although the MPEP deems that up to ten nucleotide sequences may be searched without restriction, the Commissioner has stated that, "The Office has reconsidered the policy set forth in the 1996 Notice in view of changes in the complexity of applications filed, the types of inventions claimed and the state of the prior art in this technology since that time. Because of these changes, the search and examination of up to ten molecules described by their nucleotide sequence often consumes a disproportionate amount of Office resources over that expended in 1996. Consequently, with this Notice the Office rescinds the partial waiver of 37 CFR 1.141 et seq. for restriction practice in national applications filed under 35 U.S.C. 111(a), and 37 CFR 1.475 et seq. for unity of invention determinations in both PCT international applications and the resulting national stage applications under 35 U.S.C. 371." See Examination of Patent Applications Containing Nucleotide Sequences 1316 OG 122 (March 27, 2007). **For this reason, restriction to ONE SEQUENCE is being applied to all applications at this time.**

3. The inventions listed as Groups I-XI do not relate to a single general inventive concept under PCT Rule 13.1 because, under PCT Rule 13.2, they lack the same or corresponding special technical features for the following reasons:

Applicant's claims encompass multiple inventions, multiple methods (methods of making a nucleic acid of Group III, methods of making a transgenic animal of Group IV, methods of making a animal cell of Group V, method of evaluating gene function in a cell of Group VI, method of evaluating gene function in an organism VII, methods of treating a patient of Group VIII, methods of identifying a candidate RNAi effector with reduced activity in T-cells by

recited steps of Group IX, methods of identifying a candidate inhibitor of RNAi in T-cells by recited steps of Group X, and method of identifying a missing RNAi effector or inhibitor of RNAi in T-cells by recited steps of Group XI), and multiple products (nucleic acid molecule of Group I and transgenic animal of Group II). There is no common technical feature in Groups I-XI.

MPEP 1893.03(d) Unity of Invention Rejoinder

4. MPEP 1893.03(d) states: If an examiner (1) determines that the claims lack unity of invention and (2) requires election of a single invention, when all of the claims drawn to the elected invention are allowable (i.e., meet the requirements of 35 U.S.C. 101, 102, 103 and 112), the nonelected invention(s) should be considered for rejoinder. Any nonelected product claim that requires all the limitations of an allowable product claim, and any nonelected process claim that requires all the limitations of an allowable process claim, should be rejoined. See MPEP § 821.04 and § 821.04(a). Any nonelected processes of making and/or using an allowable product should be considered for rejoinder following the practice set forth in MPEP § 821.04(b).

5. This application contains claims directed to more than one species of the generic invention. These species are deemed to lack unity of invention because they are not so linked as to form a single general inventive concept under PCT Rule 13.1.

(i) The species are as follows: a mouse, a rat, a guinea pig, a goat, a pig, a monkey, a baboon, a chimpanzee, a cow, a rabbit, a sheep, a dog, a cat, a hamster, a chicken, and a frog (claim 17). These are different mammalian species comprising distinct genomic DNA.

(ii) The species are as follows: a human, a mouse, a rat, a guinea pig, a goat, a pig, a monkey, a baboon, a chimpanzee, a cow; a horse, a rabbit; a sheep, a chicken, a dog, a cat, a frog, or a fish (claim 29). These are different mammalian species comprising distinct genomic DNA.

Applicant is required, in reply to this action, to elect a single species to which the claims shall be restricted if no generic claim is finally held to be allowable. The reply must also identify the claims readable on the elected species, including any claims subsequently added. An argument that a claim is allowable or that all claims are generic is considered non-responsive unless accompanied by an election. It is noted that the election of invention and the election of species must be consistent.

Upon the allowance of a generic claim, applicant will be entitled to consideration of claims to additional species which are written in dependent form or otherwise include all the limitations of an allowed generic claim as provided by 37 CFR 1.141. If claims are added after the election, applicant must indicate which are readable upon the elected species. MPEP § 809.02(a).

6. Because these inventions are independent or distinct for the reasons given above and there would be a serious burden on the examiner if restriction were not required because the inventions require a different field of search (see MPEP § 808.02), restriction for examination purposes as indicated is proper.

Applicant is advised that the reply to this requirement to be complete must include (i) an election of a species or invention to be examined even though the requirement be traversed (37 CFR 1.143) and (ii) identification of the claims encompassing the elected invention.

The election of an invention or species may be made with or without traverse. To reserve a right to petition, the election must be made with traverse. If the reply does not distinctly and specifically point out supposed errors in the restriction requirement, the election shall be treated as an election without traverse.

Should applicant traverse on the ground that the inventions or species are not patentably distinct, applicant should submit evidence or identify such evidence now of record showing the inventions or species to be obvious variants or clearly admit on the record that this is the case. In either instance, if the examiner finds one of the inventions unpatentable over the prior art, the evidence or admission may be used in a rejection under 35 U.S.C.103 (a) of the other invention.

7. Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

Any inquiry concerning this communication from the examiner should be directed to Wu-Cheng Winston Shen whose telephone number is (571) 272-3157 and Fax number is 571-273-3157. The examiner can normally be reached on Monday through Friday from 8:00 AM to 4:30 PM. If attempts to reach the examiner by telephone are unsuccessful, the supervisory patent

examiner, Peter Paras, Jr. can be reached on (571) 272-4517. The fax number for TC 1600 is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Wu-Cheng Winston Shen/
Patent Examiner
Art Unit 1632